

# PROJECT PROGRESS SUMMARY

February 4, 1992

127 07.2

The Project is 65% complete. The 10th Semi-Annual Review is in progress.

## **FET Operations**

- Preparations are essentially complete for startup again.
- New warm windows have been placed on the "Phoenix" cryomodule to eliminate gas permeation into the guard vacuum and test the arc trip theory.
- Realignment of the 180° bends in the recirculator was begun.

## **SRF**

### **Cavities:**

- Assembled cavity pairs IA103/IA104 last Thursday with no chemistry stains. This pair was tested Saturday.

### **Cryomodules:**

- The second cryounit for cryomodule traveller #11 was moved to the cryomodule area Friday as scheduled. The third cryounit is installed in the helium vessel and leak checked. It will be moved this week.
- The first cryounit for traveller #11 has been assembled to the end can.
- Work on improving the time to establish vacuum for the beam pipe hookup continues.
- Cryomodule #10 is in the test cave at 2 K. High-power tests start this week.

### **HOM Loads:**

- New tiles have been ground flat and will be tested for dielectric measurements before being sent for grinding. This will give us 80 to 85 sets for HOM load brazing.
- Completed flange assemblies from various vendors are being evaluated.

### **RF Windows:**

- There are about 19 additional windows ready for RF testing for a total new production run of 41.
- The Ceradyne window weld is leak tight. The electron-beam welder needed realigning before welding; new procedure requires this alignment is to be checked prior to each run.

## **Arcs**

### **Magnets:**

- Awarded contract for east spreader/recombiner stand brackets.
- Began installation of in-tunnel vacuum components and assembly of arc girders.
- Received final shipment of extractor correctors (2" aperture high-field).
- Received first shipment of production arc and linac correctors.
- Received first shipment of quads from UMT; arc, linac, and extraction units were included. Mechanical inspection is underway. Field measurements of the linac and extraction quads are in agreement with data from the prototypes.

### **Alignment:**

- Alignment of installed stands: west arc was completed and southwest matching region was started.
- Analysis of the completed remeasurement of the skeleton traverse was begun.
- Alignment of a north linac warm region quad girder was done, but required virtually all of the adjustment range.
- The ME5000 distance meter calibration was completed. Data analysis is underway.
- Brookhaven personnel were here for three days to get ideas for RHIC procedures.

### **DC Power:**

- Service building E4 trim system cable pulls were completed. Termination of cables in E2 is complete.
- Ground cable connections to stands are complete in E2-E5 regions.
- Installation of cable tray in east dogleg section was started.
- Installation of arc dipole DC leads was started.
- The east and west arc secondary feeds to the main AC distribution panels were done.

### **Diagnostics:**

- Twenty-seven M15 BPMs have been received. The antennae are out of tolerance on five units. The problem seems to be poor welding technique. Feldl has informed vendor of the problem. The in-hand units will be fixed here.
- Twenty additional cameras for viewers are available from the vendor. These will be procured so additional installations can be done.

Build and commission CEBAF safely, within cost and on schedule to meet performance objectives.

## **Linac**

### **RF:**

- Virginia Power Co. wants a contract to provide a metering pulse to us.
- RF was run in NL02 as checkout continues.
- Rack assemblies for SL04 to 10 are ready to ship from Blue Crab.
- Eight HOM filters and three more klystrons arrived this week.

### **Ops Electronics:**

- Boundary monitor wiring complete.
- Injector PLC 24V power supplies upgraded to 35A
- Artwork for arc BPM electronics completed and boards are being ordered.
- Artwork for linac BPM matching networks completed.

### **Software:**

- Injector reconfigured with four screens.
- Logic conversion for HP720s is showing good progress; logic macro ready to use, customers invited.

### **Cryogenics:**

- On 30 January the 1500 W cold box was moved to the ESR building along with the compressor skids and control panel.
- Guard vacuum piping in the tunnel was completed this week except for three days work to be done in injector area.
- CHL now has U-tube crane in the cold box room ready to use.
- The 2800 refrigerator at CTF in operational shakedown.

## **Physics**

- The subcontractor (G&R) for the Hall C support rails has completed its in-house factory work and plans to begin installation in the experimental hall this week.
- The Hall A coil/cryostat contract has been sent to DOE for approval.
- A final design review for the Hall A carriage is scheduled for February 13-14, 1992. First contracts are expected to be awarded in June.
- Proposals for Hall A spectrometer support jacks (vertical positioning devices) were received Friday and are now under evaluation.

## **Support Services**

### **Stockroom:**

- Withdrawal activity for the month: \$141,345.
- Withdrawal activity for the week: \$65,083.

### **Machine Shop:**

- Delivered various beam viewer components to WBS 5: 15 turnbuckles, 45 support rods, 15 plunger weldments, 60 back and front plates, and 22 shaft extensions.
- Manufacturing a warm beam tube assembly fixture and two caster assemblies for WBS 2.

## **Civil Construction**

### **End Stations Underground (Package A):**

- The subcontractor continued working on punch list items.

### **End Stations Above Ground (Package B):**

- Placement of service building #1 floor slab is scheduled this week.
- The floor slab for the counting house and service building #3 is essentially complete.
- Continued installing the sprinkler system and roughing in electrical in service building #4.
- Completed the siding and roofing on service building #5 and the exit stair building.
- Continued installing sprinkler mains and electrical conduits and lights in the personnel tunnels.
- Started installing light fixtures in truck access tunnel C.
- Continued constructing underground utilities.

### **Miscellaneous Projects:**

- The relocation of tunnel sprinkler lines and installation of LCW and instrument air lines are essentially complete. The systems are scheduled to be tested this week.

## **National Engineers Week, February 16-22**

During National Engineers Week, the National Society of Professional Engineers and organizations like CEBAF sponsor classroom visits and other events that put students into constructive contact with engineers. CEBAF engineers interested in participating should call Janet Hill at 7164.